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VACUUM CLEANER

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Fig. 1.

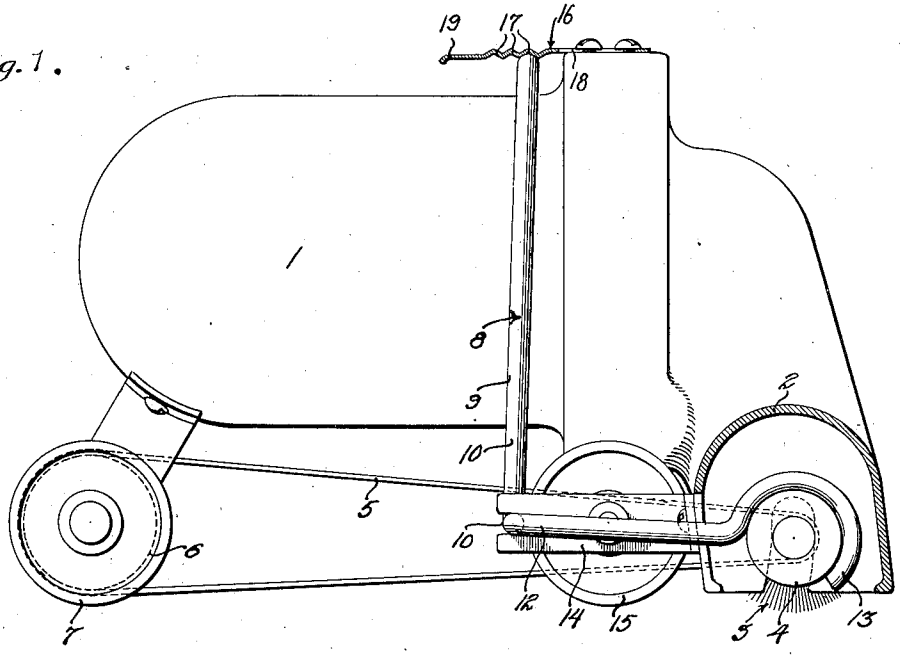
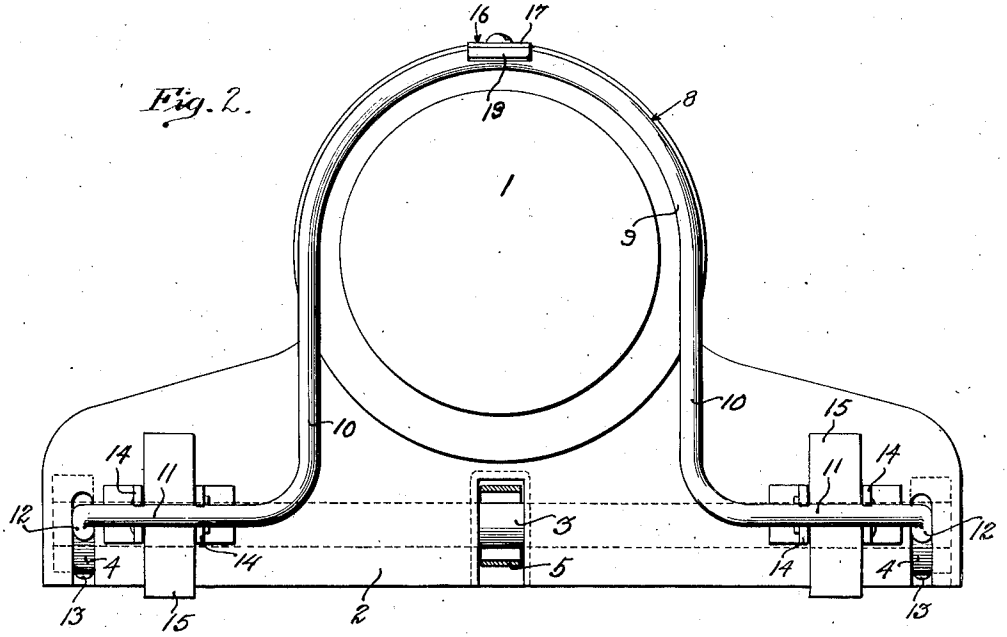


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN CODRICK AND RAYMOND P. DANLEY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS OF ONE-FOURTH TO JACOB TRACHTENBERG, ONE-EIGHTH TO HOWARD R. WILSON, OF PHILADELPHIA, PENNSYLVANIA, THREE-EIGHTHS TO SAID CODRICK AND ONE-FOURTH TO SAID DANLEY.

VACUUM CLEANER.

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Our invention relates to vacuum cleaners having a brush and more especially to the brush holding means.

The usual method of cleaning carpets, velvets, etc., having a high and a low nap on their surfaces, is to adjust the nozzle of the vacuum cleaner toward or from the nap. The purpose of this adjustment is to effect a more efficient suction through the nap into the nozzle. For example, a high nap requires the nozzle to be further from its backing than a low nap. Such adjustment of the nozzle also moves the brush with it so that the brush is further from the backing having a high nap than from the backing having a low nap. The objection to this method of cleaning is that the dirt and grit lodged deeply between the fibers of a high nap is never reached by the brush, and that the brushing effect on the fibers of a low nap is so deep and severe that the fibers are pulled out of the backing.

The objects of our invention are to provide means for holding the brush whereby the operator may quickly set the brush to clean deeply between fibers of a high nap or to brush lightly on carpets having a low or no nap, and to provide means whereby the brush may be adjusted to compensate for wear without effecting the setting for cleaning naps of different depth.

These objects, and other advantageous ends which will be described hereinafter, we attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a side view, partly in section, of a vacuum cleaner embodying our invention.

Figure 2 a rear view of the vacuum cleaner shown in Figure 1, certain of the parts being broken away.

We have shown our invention used in connection with one type of brush, but it may be used equally well with all types of brushes.

Referring to the drawings, 1 indicates a vacuum cleaner having a nozzle 2, 3 a brush therein having ball bearings 4 at its ends. The brush may be rotated by any suitable means, such as a belt 5 passing around the shaft of the brush and a pulley 6 fixed to the rear traction wheels 7. Our invention supports brush 3 in such manner that the brush may be readily lowered relatively to the nozzle for cleaning a fabric having a high nap, and raised for cleaning a fabric having a low nap. The brush holding means in its simplest and preferred form consists of a piece of heavy wire 8 bent to form a U-shaped part 9 having its legs 10 bent outwardly in the plane of the U to provide shaft parts 11, then bent inwardly out of the plane of the U to provide arms 12 having their ends 13 bent into hook shape for receiving the bearings 4 of the brush. The shaft parts 11 are pivoted on the cleaner preferably in brackets 14 which also serve as bearings for the front traction wheels 15. The U-shaped part 9 serves as a handle for lowering and raising brush 3. It is held in either position by a spring clip 16 secured to the cleaner by screws 17 passing through a slot 18 therein so that the clip may be adjusted lengthwise to effect an adjustment of the brush when it is worn. The spring clip 16 has corrugations 17 which take over the top of the U-shaped part 9 to hold it in position. An extension 18 is preferably provided on clip 16 for raising the clip when setting the brush for cleaning fabrics having high, low or no naps.

When cleaning a fabric having a high nap, brush 3 is lowered to the position shown in Figure 1. To clean a fabric having a low nap, brush 3 is raised by moving the U-shaped part 9 into the intermediate corrugation 17. To clean a fabric without nap, the brush is raised by moving the U-shaped part 9 into the third corrugation 17. The wear on the brush is compensated for by adjusting clip 16 lengthwise to bring the brush downward. Such adjustment does not affect the relative setting of the brush for cleaning fabrics having a high, low or no nap.

While we have described our invention as taking a particular form, it will be understood that the various parts may be changed without departing from the spirit thereof, and hence we do not limit ourselves to the precise construction set forth, but consider that we are at liberty to make such changes and alterations as fairly come within the scope of the appended claim.

Having thus described our invention, what

we claim as new and desire to secure by Letters Patent is:—

Means for supporting and adjusting a brush in a vacuum cleaner of a type having brackets supporting the traction wheels and having a nozzle arranged in advance of said brackets, said means consisting of a U-shaped operating handle; extensions projecting in opposite directions from the lower ends of said handle in the plane thereof and having bearing in said brackets transversely thereof in positions to the rear of the traction wheels; arms extending forwardly from the extensions across the traction wheels and into the nozzle; hook devices on said arms within the nozzle for receiving and holding a brush therein; and means for holding the handle in adjusted position substantially as described.

In testimony whereof we have signed our names to this specification.

JOHN CODRICK.
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